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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/822,044	04/09/2004	Ronald R. Erickson	2003-02PAT	2270

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EXAMINER	
BOUTSIKARIS, LEONIDAS	
ART UNIT	**PAPER NUMBER**
2872	

DATE MAILED: 08/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/822,044	ERICKSON ET AL.	
	Examiner	Art Unit	
	Leo Boutsikaris	2872	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 June 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *09 April 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 6/27/2005 has been entered.

Oath/Declaration

The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

> The oath or declaration is defective because:
> It does not identify the mailing address of each inventor. A mailing address is an address at which an inventor customarily receives his or her mail and may be either a home or business address. The mailing address should include the ZIP Code designation. The mailing address may be provided in an application data sheet or a supplemental oath or declaration. See 37 CFR 1.63(c) and 37 CFR 1.76.

It is noted that the new declaration, submitted on 12/13/2004, still does not indicate the post office address of the inventors. If the post office address of the inventors is the same as the residence address, it should be indicated as "same".

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 12-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Daniel (US 6,280,891).

Regarding claim 1, Daniel discloses a device for limiting the reproducibility of information in the form of a security hologram affixed to a document (Figs. 1, 3) comprising a semi-rigid carrier 1; and a holographic element 4 coupled to the carrier (Figs. 2, 4), the holographic element being such, that upon viewing, it provides a first set of optical information in the form of a first coded pattern (e.g., a bar code) 16, see Fig. 6, and a second set of optical information in the form of a second coded pattern (e.g., a bar code) 17, see Fig. 7, depending on the illumination angle (lines 53-58, col. 4, 21-48, col. 5, 12-43, col. 6). Each of the first set and second set of information represents a pattern of light, e.g., a bar code. In the above device, the first set of information is created by/included within substantially the entire planar area defined by the holographic element/grating 4, and the second set of information is created by/included in portions of the holographic element/grating 4, e.g., the whole grating.

Regarding claims 2-3, the patterns 16, 17 are used for authentication, coded according to a secret coding function/algorithm, which may be the same or different depending on the document (lines 24-32, col. 6).

Regarding claims 12-13, the images, i.e., the codes, reconstructed by the gratings are recognizable images, which can be considered as abstract since they cannot be interpreted by the human eye.

Claims 1, 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Drinkwater (US 6,369,919).

Drinkwater discloses a device for limiting the reproducibility of information in the form of a security hologram (Fig. 1) comprising a semi-rigid carrier; and a holographic element (2, 3) coupled to the carrier, the holographic element being such, that upon viewing, it provides a first set of optical information in the form of a first coded pattern (e.g., letter A, see Fig. 1C), and a second set of optical information in the form of a second coded pattern (e.g., letter B, see Fig. 1D), depending on the illumination angle (line 61, col. 9 to line 23 col. 10). Each of the first set and second set of information represents a pattern of light, e.g., a character. In the above device, the first set of information is created by/included within substantially the entire planar area defined by the holographic element/grating (2, 3), and the second set of information is created by/included in portions of the holographic element/grating (2, 3), e.g., the whole grating, see Fig. 1A.

Claims 1, 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Stork (US 6,271,967).

Stork discloses a device for limiting the reproducibility of information in the form of a security hologram 4 (Fig. 1) comprising a semi-rigid carrier 2; and a holographic element (16,

18) coupled to the carrier, the holographic element being such, that upon viewing, it provides a first set of optical information in the form of a first coded pattern, and a second set of optical information in the form of a second coded pattern, depending on the depth of the diffraction grating (line 1, col. 5 to line 5 col. 6). Each of the first set and second set of information represents a pattern of light, e.g., an image. In the above device, the first set of information is created by/included within substantially the entire planar area defined by the holographic element/grating 4, and the second set of information is created by/included in portions of the holographic element/grating 4, see Fig. 1.

Claims 1, 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Lee (US 5,825,547).

Lee discloses a device for limiting the reproducibility of information in the form of a security hologram 1 (Fig. 1) comprising a semi-rigid carrier; and a holographic element coupled to the carrier, the holographic element having two types of diffraction gratings 4 and 5, and being such, that upon viewing, it provides a first set of optical information in the form of a first image, and a second set of optical information in the form of a second image (Fig, 1, lines 46-53, col. 3). Each of the first set and second set of information represents a pattern of light, e.g., an image. In the above device, the first set of information is created by/included within substantially the entire planar area defined by the holographic element/grating 1, and the second set of information is created by/included in portions of the holographic element/grating 1, e.g., the whole grating, see Fig. 1.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-3, 8, 12-13 are rejected under 35 U.S.C. 102(e) as being anticipated by Moon (US 2004/0233485).

Regarding claim 1, Moon discloses an authentication device 8 comprising a substrate 10 and a holographic element 12 coupled to the substrate including within substantially within the entire planar area defined by the holographic element a first set of optical information in first coded pattern (code 1) and including in one or more portions of the holographic element a second set of optical information in a second coded pattern (code 2), see Figs. 4, 36, [0149]. Each of the first set and second set of information represents a pattern of light, e.g., a bar code.

Regarding claims 2-3, the patterns code 1, code 2 are used for authentication, coded according to a secret coding function/algorithm, which may be the same or different depending on the document ([0186]).

Regarding claim 8, Moon teaches that the gratings can be imprinted on the substrate ([0057]).

Regarding claims 12-13, the images, i.e., the codes, reconstructed by the gratings are recognizable images, which can be considered as abstract since they cannot be interpreted by the human eye.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 7, 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moon (US 2004/0233485).

Moon discloses all the limitations of the above claims except for specifying the method by which the gratings are formed within or on the substrate, namely photolithography, solvent based surface deformation, or laser disruption of the volume of the holographic element. However, Moon teaches that the gratings can be disposed or formed within or on the substrate by different ways, e.g., written, impressed, embedded, imprinted, etched, grown, deposited ([0057]). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use photolithography, solvent based etching or laser based ablation to form the gratings, since Official Notice is taken that the above methods are all widely used in forming microstructures within or on a substrate.

Claims 4-6, 14-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Daniel (US 6,280,891) in view of Jung (US 4,171,864).

Regarding claims 4, 17-20, Daniel discloses all the limitations of the above claim including a reader system, which includes a light source 17, a first and a second detector positioned at respective predetermined distances from the location of the holographic element (provided on the surface of carrier 3), the detectors being provided on CCD sensor 18 (Fig. 8, lines 44-56, col. 6). Each detector corresponds to a respective angle of incidence for the reading light and is at a predetermined distance and orientation relative to the holographic element.

However, Daniel does not specify that the reader system comprises a reader housing having an opening where the holographic element/carrier is positioned. Jung discloses an identification security document and a display system for reading it (Fig. 5), wherein the security hologram 10 is positioned inside an appropriate reader apparatus 17 through an opening (see Fig. 5, and lines 25-46, col. 3). It would have been obvious to one of ordinary skill in the art at the time the invention was made to read the security document 3 of Daniel via a reader device as taught by Jung, for achieving a robust reader device ensuring the same optical alignment each time the document is read.

Regarding claim 5, the reader apparatus utilizes a microcomputer (lines 52-56, col. 6 in Daniel).

Regarding claim 6, the first and second detectors comprise arrays of detectors in the form of a CCD array 18 (lines 52-54, col. 6).

Regarding claims 14-16, Jung teaches that the authentication device is inserted through the aperture for reading the information stored in the grating (Fig. 4).

Claims 4-6, 14-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moon (US 2004/0233485) in view of Jung (US 4,171,864).

Regarding claims 4, 17-20, Moon discloses all the limitations of the above claim including a reader system, which includes a light source 300, a first and a second detector 308 positioned at respective predetermined distances from the location of the holographic element (provided on the surface of carrier 10), the detectors being provided on CCD sensor (Fig. 19, [0125]). Each detector is positioned at a predetermined distance and orientation relative to the

gratings. However, Moon does not specify that the reader system comprises a reader housing having an opening where the holographic element/carrier is positioned. Jung discloses an identification security document and a display system for reading it (Fig. 5), wherein the security hologram 10 is positioned inside an appropriate reader apparatus 17 through an opening (see Fig. 5, and lines 25-46, col. 3). It would have been obvious to one of ordinary skill in the art at the time the invention was made to read the security document of Moon via a reader device as taught by Jung, for achieving a robust reader device ensuring the same optical alignment each time the document is read.

Regarding claim 5, the reader apparatus utilizes a microcomputer in order to translate the detected image into a digital signal ([0186])

Regarding claim 6, the first and second detectors comprise arrays of detectors in the form of a CCD array ([0125).

Regarding claims 14-16, Jung teaches that the authentication device is inserted through the aperture for reading the information stored in the grating (Fig. 4).

Response to Arguments

Applicant's arguments filed on 6/27/2005 have been fully considered but they are not persuasive.

Regarding Daniel '891, the reference discloses a security hologram, wherein a holographic layer 4 includes therein two sets of optical information, each recreated depending on the angle on incidence of a reading beam. This clearly reads on the limitations of claim 1 of the present application.

Regarding Moon '485, Applicant does not provide reasons why the reference is different than claim 1. Moon discloses a security device where multiple diffraction gratings are formed within a common planar substrate (see Fig. 4), each grating producing a different code image upon illumination.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dr. Leo Boutsikaris whose telephone number is 571-272-2308.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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August 23, 2005

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